

Application No.: 09/919,877  
Amdt. Dated: April 4, 2005  
Reply to Office Action Dated: November 3, 2004

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### **Amendments to the Claims:**

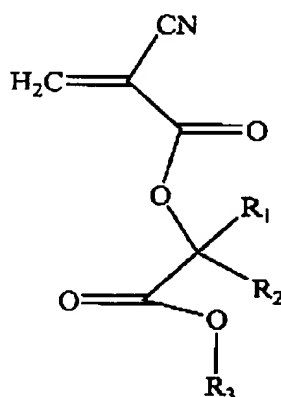
This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claim 1 (Currently amended): A biocompatible adhesive composition, comprising:  
a first monomer species; and  
a second monomer species different from said first monomer species,  
wherein at least said first monomer species is absorbable, and  
an absorption rate of said first monomer species is different from an absorption  
rate of said second monomer species,  
wherein said first monomer species comprises an alkyl ester cyanoacrylate,  
wherein said second monomer species comprises a cyanoacrylate, and  
wherein said first and second monomer species have different absorption rates such  
that an absorption rate of a faster absorbing monomer species is at least 10% faster than an  
absorption rate of a slower absorbing monomer species.

Claim 2 (Canceled).

Claim 3 (Previously presented): The biocompatible adhesive composition of claim 1,  
wherein said alkyl ester cyanoacrylate has the formula



wherein R<sub>1</sub> and R<sub>2</sub> are independently H, a straight, branched or cyclic alkyl group, or  
are combined together in a cyclic alkyl group, and R<sub>3</sub> is a straight, branched or cyclic alkyl  
group.

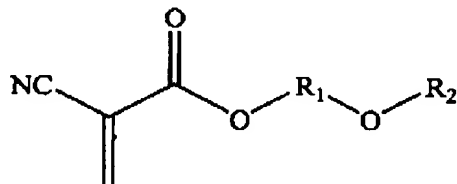
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**Claim 4 (Previously Presented):** The biocompatible adhesive composition of claim 1, wherein said alkyl ester cyanoacrylate is selected from the group consisting of butyl lactoyl cyanoacrylate, butyl glycoloyl cyanoacrylate, isopropyl glycoloyl cyanoacrylate, ethyl lactoyl cyanoacrylate, and ethyl glycoloyl cyanoacrylate.

**Claim 5 (Previously Presented):** The biocompatible adhesive composition of claim 1, wherein said second monomer species comprises an alkyl ether cyanoacrylate.

**Claim 6 (Original):** The biocompatible adhesive composition of claim 5, wherein said alkyl ether cyanoacrylate has the formula



where  $R_1$  is a straight, branched or cyclic alkyl, and  $R_2$  is a straight, branched or cyclic alkyl group.

**Claim 7 (Original):** The biocompatible adhesive composition of claim 6, wherein said alkyl ether cyanoacrylate is selected from the group consisting of isopropoxy ethyl cyanoacrylate and methoxy butyl cyanoacrylate.

**Claim 8 (Original):** The biocompatible adhesive composition of claim 1, wherein said second monomer species comprises a cyanoacrylate other than an alkyl ester cyanoacrylate and an alkyl ether cyanoacrylate.

**Claim 9 (Original):** The biocompatible adhesive composition of claim 8, wherein said second monomer species is an alkyl  $\alpha$ -cyanoacrylate, having an alkyl group of from about 2 to about 12 carbon atoms.

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Claim 10 (Original): The biocompatible adhesive composition of claim 8, wherein said second monomer species is selected from the group consisting of octyl  $\alpha$ -cyanoacrylate, hexyl  $\alpha$ -cyanoacrylate, butyl  $\alpha$ -cyanoacrylate and ethyl  $\alpha$ -cyanoacrylate.

Claim 11 (Original): The biocompatible adhesive composition of claim 8, wherein said second monomer species is selected from the group consisting of octyl  $\alpha$ -cyanoacrylate, hexyl  $\alpha$ -cyanoacrylate, butyl  $\alpha$ -cyanoacrylate and ethyl  $\alpha$ -cyanoacrylate.

Claim 12 (Original): The biocompatible adhesive composition of claim 1, wherein said first monomer species comprises an alkyl ester cyanoacrylate and said second monomer species comprises an alkyl  $\alpha$ -cyanoacrylate.

Claim 13 (Original): The biocompatible adhesive composition of claim 1, wherein said first monomer species comprises butyl lactoyl cyanoacrylate and said second monomer species comprises octyl  $\alpha$ -cyanoacrylate.

Claim 14 (Original): The biocompatible adhesive composition of claim 1, wherein said composition further comprises at least one additive selected from the group consisting of anionic stabilizing agents, free radical stabilizing agents, colorants, and plasticizers.

Claim 15 (Original): The biocompatible adhesive composition of claim 1, wherein said composition comprises:

- a monomer blend comprising from about 25 to about 40 parts by weight butyl lactoyl cyanoacrylate and from about 60 to about 75 parts by weight octyl cyanoacrylate (OCA);
- at least one anionic stabilizer; and
- at least one radical stabilizer.

Claim 16 (Original): The biocompatible adhesive composition of claim 15, wherein said at least one anionic stabilizer comprises about 25 to about 100 ppm of sulfuric acid and from about 1 to about 50 ppm sulfur dioxide, and said at least one radical stabilizer comprises from about 100 to about 2000 ppm hydroquinone, from about 10 to about 200 ppm p-methoxyphenol, and from about 100 to about 10,000 ppm butylated hydroxyanisole.

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Claim 17 (Canceled).

Claim 18 (Canceled).

Claim 19 (Canceled).

Claim 20 (Withdrawn-Currently Amended): A method of treating living tissue, comprising:  
applying to living tissue a biocompatible adhesive composition comprising:  
at least one alkyl ester cyanoacrylate monomer;  
a second monomer species having an absorption rate different from an absorption rate of said at least one alkyl ester cyanoacrylate monomer, the second monomer species comprising a cyanoacrylate; and  
a polymerization initiator or accelerator, wherein said polymerization initiator or accelerator is a quaternary amine.

Claim 21 (Withdrawn): The method of claim 20, wherein two or more polymerization initiators or accelerators are applied to said living tissue.

Claim 22 (Withdrawn): The method of claim 20, wherein said second monomer species comprises a cyanoacrylate other than an alkyl ester cyanoacrylate and an alkyl ether cyanoacrylate.

Claim 23 (Withdrawn): The method of claim 22, wherein said second monomer species is an alkyl  $\alpha$ -cyanoacrylate, having an alkyl group of from about 2 to about 12 carbon atoms.

Claim 24 (Withdrawn): The method of claim 22, wherein said second monomer species is selected from the group consisting of octyl  $\alpha$ -cyanoacrylate, hexyl  $\alpha$ -cyanoacrylate, butyl  $\alpha$ -cyanoacrylate and ethyl  $\alpha$ -cyanoacrylate.

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Claim 25 (Withdrawn): The method of claim 20, wherein a weight ratio of said at least one alkyl ester cyanoacrylate monomer to said second monomer species is from about 25:75 to about 75:25.

Claim 26 (Withdrawn): The method of claim 20, wherein said at least one alkyl ester cyanoacrylate monomer comprises butyl lactoyl cyanoacrylate and said second monomer species comprises octyl  $\alpha$ -cyanoacrylate.

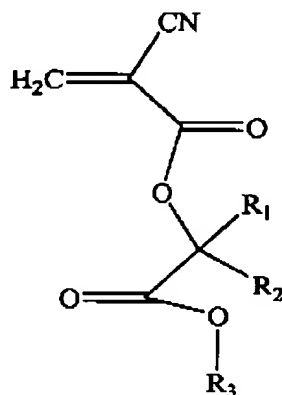
Claim 27 (Withdrawn): The method of claim 20, wherein said adhesive composition further comprises at least one additive selected from the group consisting of anionic stabilizing agents, free radical stabilizing agents, colorants, and plasticizers.

Claims 28-45. (Canceled).

Claim 46 (Withdrawn): A method of treating living tissue, comprising:  
applying to internal living tissue in a living organism the biocompatible adhesive composition of claim 1.

Claim 47 (Canceled).

Claim 48 (Withdrawn): The method of claim 46, wherein said alkyl ester cyanoacrylate has the formula



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whercin  $R_1$  and  $R_2$  are independently H, a straight, branched or cyclic alkyl group, or are combined together in a cyclic alkyl group, and  $R_3$  is a straight, branched or cyclic alkyl group.

Claim 49 (Withdrawn): The method of claim 46, wherein said alkyl ester cyanoacrylate is selected from the group consisting of butyl lactoyl cyanoacrylate, butyl glycoloyl cyanoacrylate, isopropyl glycoloyl cyanoacrylate, ethyl lactoyl cyanoacrylate, and ethyl glycoloyl cyanoacrylate.

Claim 50 (Withdrawn): The method of claim 46, whercin said second monomer species comprises a cyanoacrylate other than an alkyl ester cyanoacrylate and an alkyl ether cyanoacrylate.

Claim 51 (Withdrawn): The method of claim 50, wherein said second monomer species is an alkyl  $\alpha$ -cyanoacrylate, having an alkyl group of from about 2 to about 12 carbon atoms.

Claim 52 (Withdrawn): The method of claim 50, wherein said second monomer species is selected from the group consisting of octyl  $\alpha$ -cyanoacrylate, hexyl  $\alpha$ -cyanoacrylate, butyl  $\alpha$ -cyanoacrylate and ethyl  $\alpha$ -cyanoacrylate.

Claim 53 (Withdrawn): The method of claim 46, wherein a weight ratio of said first monomer species to said second monomer species is from about 25:75 to about 75:25.

Claim 54 (Withdrawn): The method of claim 46, whercin said first monomer species comprises an alkyl ester cyanoacrylate and said second monomer species comprises an alkyl  $\alpha$ -cyanoacrylate.

Claim 55 (Withdrawn): The method of claim 46, whercin said first monomer species comprises butyl lactoyl cyanoacrylate and said second monomer species comprises octyl  $\alpha$ -cyanoacrylate.

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**Claim 56 (Withdrawn):** The method of claim 46, wherein said composition further comprises at least one additive selected from the group consisting of anionic stabilizing agents, free radical stabilizing agents, colorants, and plasticizers.

**Claim 57 (Withdrawn):** The method of claim 46, wherein said polymerization initiator or accelerator is a quaternary amine.

**Claim 58 (Withdrawn):** The method of claim 46, wherein said polymerization initiator or accelerator is selected from the group consisting of domiphen bromide and benzyldimethylhexadecyl ammonium chloride.

**Claim 59 (Currently amended):** A biocompatible adhesive composition, comprising:  
at least one alkyl ester cyanoacrylate monomer;  
a second monomer species having an absorption rate different from an absorption rate of said at least one alkyl ester cyanoacrylate monomer, the second monomer species comprising a cyanoacrylate; and  
a polymerization initiator or accelerator, wherein said polymerization initiator or accelerator is a quaternary amine.

**Claim 60 (Original):** The composition of claim 59, further comprising a second different polymerization initiator or accelerator.

**Claim 61 (Original):** The composition of claim 60, wherein said second monomer species comprises a cyanoacrylate other than an alkyl ester cyanoacrylate and an alkyl ether cyanoacrylate.

**Claim 62 (Original):** The composition of claim 61, wherein said second monomer species is an alkyl  $\alpha$ -cyanoacrylate, having an alkyl group of from about 2 to about 12 carbon atoms.

**Claim 63 (Original):** The composition of claim 61, wherein said second monomer species is selected from the group consisting of octyl  $\alpha$ -cyanoacrylate, hexyl  $\alpha$ -cyanoacrylate, butyl  $\alpha$ -cyanoacrylate and ethyl  $\alpha$ -cyanoacrylate.

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**Claim 64 (Original):** The composition of claim 60, wherein a weight ratio of said at least one alkyl ester cyanoacrylate monomer to said second monomer species is from about 25:75 to about 75:25.

**Claim 65 (Original):** The composition of claim 60, wherein said at least one alkyl ester cyanoacrylate monomer comprises butyl lactoyl cyanoacrylate and said second monomer species comprises octyl  $\alpha$ -cyanoacrylate.

**Claim 66 (Original):** The composition of claim 60, wherein said adhesive composition further comprises at least one additive selected from the group consisting of anionic stabilizing agents, free radical stabilizing agents, colorants, and plasticizers.

**Claim 67 (Original):** A polymerized film formed by curing the composition of claim 59.

**Claim 68 (Previously Presented):** A polymerized film formed by curing the composition of claim 1.

**Claim 69 (Previously Presented):** The biocompatible adhesive composition of claim 1, wherein said adhesive composition is a polymerizable adhesive composition.

**Claim 70 (Previously Presented):** The biocompatible adhesive composition of claim 1, wherein said adhesive composition is in a monomeric form.

**Claim 71 (Previously Presented):** The biocompatible adhesive composition of claim 1, wherein said first monomer species and said second monomer species are present in an amount of at least 65 percent by weight of the biocompatible adhesive composition.

**Claim 72 (Canceled).**

**Claim 73 (New):** The biocompatible adhesive composition of claim 59, wherein said alkyl ester cyanoacrylate and said second monomer species have different absorption rates



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such that an absorption rate of a faster absorbing monomer species is at least 10% faster than an absorption rate of a slower absorbing monomer species.